Chemistry 1—Mrs. Schmidt

Alchemy Unit Test # 1 Review

ALT 1: I can use properties of matter to organize and explain the patterns of the periodic table and use the periodic table to predict properties of matter

What tools do chemists use to study matter? [Lab Equipment Handout & text book]

1. Be able to recognize and name the following pieces of glassware:
    a. Test tube
    b. Beaker
    c. Graduated cylinder
    d. Flask
2. Define the word meniscus and draw a picture to go with your description (page 11):

3. How do you measure the mass of an object? What are the units of mass?

4. Explain you use a graduated cylinder to measure the volume of an irregular solid?

How can density be used to identify a substance? [Lesson 4 and Density Lab]

5. Write the formula for density: Density = _____
   Know how to solve problems!
    a. A piece of metal has a volume of 30.0 cm^3 and a mass of 252 g. What is the density of the metal **[Show your calculation & include the correct units!]**:

    b. A gold ring weighs 7.50 g and has a volume of 0.388 mL. What is the density of the gold ring? **[Show your calculation & include the correct units!]**:

6. Is the gold ring in #1.b. made of real gold? How do you know this? Refer to the data in Table 1 to answer this question.

_____
_____

Table 1: Densities of Select Metals				
Metal	Copper	Zinc	Gold	Lead
Density (g/mL)	9.0	7.1	19.3	11.4

What do chemical names and symbols tell us about matter? [Lesson 6 Handout]

7. Define the following words and give one or two examples of each one:
    a. Element

    b. Compound

    c. Chemical formula

8. Two bottles are on a shelf in the chemistry lab. Both contain a shiny yellow metal.
   Bottle A is labeled Au (s)
   Bottle B is labeled FeS_2(s)
    a. What does the symbol (s) tell you? _____

    b. Do both bottles contain gold? Why or why not? _____

    c. Why some of the letters uppercase and others are lowercase?

What happens to elements and compounds in a chemical reaction? [Lessons 7 and 8]

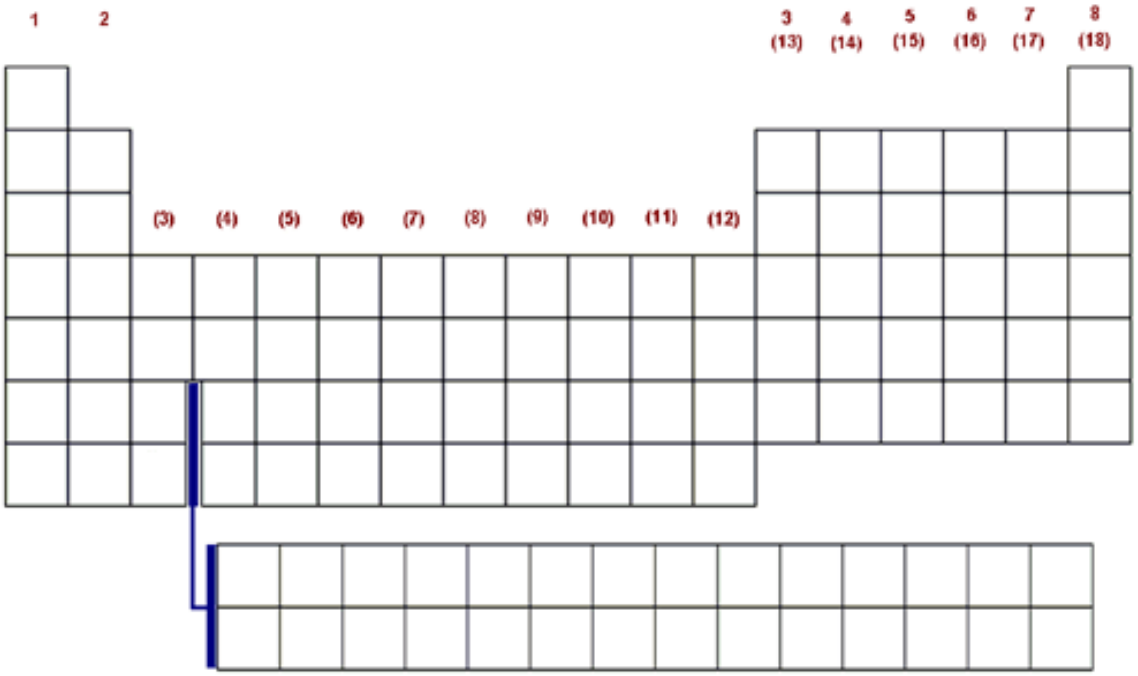
9. State the Law of Conservation of Mass in your own words.

10. Name four observations from the copper lab that signified a chemical change:

11. Explain how the copper cycle experiment supports the claim that copper is an element.

How can we use patterns in the periodic table to predict properties of the elements? [Lesson 9 and 10 handouts and text book reading]

12. Use the blank periodic table to label the following groups/families: alkali metals, alkaline earth metals, transition metals, halogens, noble gases, and all nonmetals. You may color code with a key if you have colors.



Use your periodic table to answer the following questions, EXCEPT # 17:

13. The chemical formula for salt is NaCl, what formula do you predict for hydrochloric acid?

14. Name three pairs of elements would have similar properties.

15. Explain why Cu, Ag, and Au have similar properties.

16. Which group/family has the least reactive elements?

17. Which groups have the most reactive elements? Where specifically, what elements?

18. Without looking on the front of your sheet, or your periodic table, correctly order the groups/families of the periodic table from left to right.

19. Where are the metalloids? What is a metalloid?